

REMARKS

Applicant would like to thank the Examiner for the careful consideration given the present application. The application has been carefully reviewed in light of the Office action, and amended as necessary to more clearly and particularly describe the subject matter which applicant regards as the invention.

Applicant acknowledges the Examiner's receipt of the priority document translation regarding Andoue, thus, removing Andoue as a reference.

Claim 1 has been amended and claims 6-10 have been added.

The Examiner rejected claims 1-5 under 35 U.S.C. 102(e) as being anticipated by Inoue et al., U.S. Pre-Grant Pub. No. 2002/0122970. The Examiner's rejection is traversed for the following reason. Claim 1 has been amended to further define that the peripheral part is made from a resin member.

Applicant discloses a fuel cell separator 10 that has a metal central part 22, a peripheral part 30 surrounding the metal central part 22 and an elastic member 40 that connects the peripheral part 30 to the metal central part 22. The peripheral part 30 is comprised of a frame part whereby the entire frame part is made from a resin. The frame part defines a reaction gas passage 13, which guides the reaction gases (hydrogen and oxygen) to the metal central part 22. The frame part further defines a reaction product passage 14, which guides a reaction product (H₂O) produced at the metal central part 22 to the reaction product passage 14. As required by claim 1, the reaction gas passage 13 and the reaction product passage 14 (hereinafter referred to collectively as "passages") are defined in the frame part of the separator. Further, paragraphs [0002] through [0013] of the

present application disclose that a separator with a metal periphery is prone to corrosion where the reaction gasses (hydrogen and oxygen) and the reaction product (H_2O) pass through the passages. Thus, as disclosed in paragraph [0015] of the present invention, the purpose of a separator with a resin frame part is to prevent the periphery of the separator from corroding.

In his rejection of claims 1-5 the Examiner stated that Inoue teaches a fuel cell separator 14 having a metallic central portion 14a connected to an elastic member 41, 42, which is connected to a resin member 43, 44 that forms a peripheral portion. Thus, the Examiner contends that the portion of the separator represented by reference numbers 43 and 44 is a resin peripheral portion. Applicant respectfully disagrees. Inoue discloses a method for fabricating a seal-integrated separator whereby the separator includes a separator body made of stainless steel. Accordingly, Inoue does not teach all the features of amended claim 1. More specifically, Inoue does not teach "wherein...the frame part consists of a resin member."

Referring to paragraph [0086] and to FIG. 1 of Inoue, Inoue discloses a cathode side separator 14 and an anode side separator 16. Inoue expressly states that the separators 14, 16 are stamped plates made from stainless steel. The stainless steel separators 14, 16 include a central corrugated portion 32, 33 and plane portions 34, 35, which are located on the periphery of the plates outside the corrugated portions 32, 33. Multiple communication ports (or passages) 61a-63c and 61b-63b are defined in the plane portions 34, 35 of the separator 14, 16. Thus, the plane portions 34, 35 of the separator 14, 16 are considered to be the peripheral part (or frame part) since the passages 61a-63c and 61b-63b are defined in this portion, which is a requirement of

amended claim 1. Inoue further discloses a resin inner seal and a resin outer seal that simply provide a seal around the communication ports (or passages) 61a-63c and 61b-63b. The inner seal includes a first seal 41 and a second seal 42 located on the top and bottom surfaces respectively of an outer most groove 30a. The outer seal includes a third seal 43 and a fourth seal 44 located on the top and bottom surfaces respectively of the plane portion 34.

Thus, as mentioned above, the entire separator 14, 16, including the central portion 32, 33 and the plane peripheral portion (frame part) 34, 35, is made from stainless steel. Only part of the peripheral portion and not the entire peripheral portion contains resin, which are the inner and outer seals. Whereas, in the present invention the entire peripheral portion (frame part) is made of resin.

Based on the foregoing, it is apparent that Inoue does not teach or suggest all the features of claim 1 and therefore cannot be cited as anticipating claim 1. More specifically, Inoue does not disclose, teach or suggest a separator having a resin frame part.

Claims 2-5 depend either directly or indirectly on claim 1, thus, all arguments pertaining to claim 1 are equally applicable to these claims and are herein incorporated by reference.

Regarding new claim 6, Inoue does not teach all the features of claim 6. More specifically, Inoue does not teach "a resin frame part" nor does Inoue teach "...the metal central part such that the resin frame part and the central metal part are separated by a gap."

First, as mentioned above, Inoue discloses separators whereby the entire

separator 14, 16, including the central portion 32, 33 and the plane portion (frame part) 34, 35, is made from stainless steel. Only part of the plane portion and not the entire plane portion contains resin, which are the inner and outer seals. Whereas, in the present invention the entire peripheral portion (frame part) is made of resin.

Second, the separators 14, 16 disclosed in Inoue are a single integrated piece that has multiple through holes 75, see FIG. 5, to allow melted seal material to flow from one side of the separator to the other side of the separator. These through holes, however, are strategically placed around the separator and do not form a gap that separates the central portion 32, 33 from the plane portion (frame part) 34, 35.

Thus, Inoue does not teach all the features of claim 6. More specifically, Inoue does not teach a resin frame part or a gap separating the central portion from the plane portion.

The Examiner provisionally rejected claims 1-5 on the ground of non-statutory obviousness-type double patenting as being unpatentable over claims 7-23 of co-pending Application No. 10/352,958 (2003/0143451). In response to the provisional rejection, Applicant will file a terminal disclaimer if and when necessary.

In light of the foregoing, it is respectfully submitted that the present application is in a condition for allowance and notice to that effect is hereby requested. If it is determined that the application is not in a condition for allowance, the Examiner is invited to initiate a telephone interview with the undersigned attorney to expedite prosecution of the present application.

If there are any additional fees resulting from this communication, please charge same to our Deposit Account No. 18-0160, our Order No. SHM-15712.

Respectfully submitted,

RANKIN, HILL, PORTER & CLARK LLP

By /Ronald S. Nolan/
Ronald S. Nolan, Reg. No. 59271
Patent Agent

38210 Glenn Avenue
Willoughby, Ohio 44094-7808
(216) 566-9700